California Actuarial Advisory Panel (CAAP)
Discussion Draft: ~~MODEL~~ POLICIES FOR PRICING BENEFIT CHANGES

INTRODUCTION

This discussion supplements the Actuarial Funding Policies and Practices for Public Pension and OPEB Plans and Level Cost Allocation Model (Funding Policies and Practices) distributed by CAAP in early 2013. Please refer to that document for general policy objects, definitions and various~~model~~ approaches for valuations, which would generally also apply for pricing benefit changes.

The funding policies raised in this discussion were developed primarily for pension benefit increases. However reductions in pension accruals as well as new tiers of reduced benefits are also discussed. To the extent that OPEB benefits are increased or decreased, these policies could also be applied.

SCOPE AND DEFINITIONS -The cost of pension or OPEB benefit changes ultimately depends on the increased or decreased amount of benefits paid to members over time. However, the plan's funding policies determine the immediate impact on contributions as well as how any contribution changes will be allocated over future years. The three basic sources of funding are contributions (employer and members), surplus, and "excess" investment return.

There are situations, some explicitly identified below, which may require additional analysis to establish full accountability and transparency regarding the financial impact of benefit plan changes. As always, it is up to the actuary to apply professional judgment to the particulars of the situation and recommend the most appropriate policies and calculations for that situation, including considerations of materiality.

Following are definitions of some terms used in this discussion:

Prospective benefit changes increase/decrease benefits only for service after some specified date. Also known as "future service" or "future service only" benefits changes.

Retroactive benefit improvements increase benefits only for service prior to some specified date. Also known as "past service" benefit increases. While most retroactive benefit increases include all past service, a retroactive benefit increase could apply only to a portion of a member's past service. Note that retroactive benefit reductions are generally not permitted for pension benefits and are therefore omitted in this discussion.

Retroactive and prospective benefit improvements increase benefits for both past service and future service, such as a change in benefit formula for all years of service.

~~Normal Cost is the portion of the total present value of benefits that is allocated to the current year of service for active members.~~

~~Actuarial Accrued Liability (AAL) is the value today of the past normal costs for active members, plus the full present value of benefits for retired and inactive members. It represents the total liability to date for all accrued costs for all members of the system.~~

~~Actuarial Value of Assets (AVA) is the value of assets used when determining the employer contribution requirements. It is based on the market value of assets but in a way that reduces or "smooths" short-term market volatility.~~

~~Unfunded Actuarial Accrued Liability (UAAL) is the excess, if any, of the plan's actuarial accrued liability (AAL) over the plan's actuarial value of assets (AVA). A plan with a UAAL must receive contributions in excess of the normal cost to achieve full funded status.~~

~~Surplus is the excess of the plan's actuarial value of assets (AVA) compared to the plan's actuarial accrued liability (AAL). A plan with a surplus may reduce current contributions below the level of the normal cost.~~

~~Amortization is the process of paying off any UAAL or taking credit for any surplus over a period of years (the "amortization period").~~

The employer contribution rate will generally be the sum of the normal cost plus any unfunded actuarial accrued liability (UAAL) amortization payment (or less any surplus amortization credit), and less any member contributions.

ACTUARIAL PRICING OF BENEFIT PLAN CHANGES

The remainder of this discussion will identify and discuss a series of considerations that arise when pricing benefit changes, followed by suggested approaches for addressing each consideration in a manner consistent with the concepts and principles identified in the INTRODUCTION. Note that a document used to consider benefit changes should always disclose the impact of the benefit changes on funding. In addition, it may be appropriate to disclose other impacts of the benefit changes, such as the accounting implications.

1. Consideration: Actuarial Assumptions

CAAP defers to various Actuarial Standards of Practice regarding the appropriate development and selection of actuarial assumptions. We believe the selection and disclosure of these actuarial assumptions are critical to comply with the funding policy objectives identified above and therefore suggest specific areas where close attention to actuarial assumptions and additional analysis may be needed. Specifically, the results of stress tests, scenario analyses and stochastic modeling may need to be completed in order to properly disclose the potential change in volatility due to benefit changes, or the dependence of the estimated cost of the benefit change on the actuarial assumptions adopted.

Suggested Approach: Changes in Behavior - Assumptions for benefit changes should be set consistent with anticipated experience. For example, formula changes that encourage (or discourage) earlier (or later) retirements should be priced using corresponding changes in anticipated retirement rates**. I**f the behavior change is especially difficult to predict or has a significant impact on the cost, various possible scenarios should be run and disclosed before plan changes are approved.

Suggested Approach: Benefit Based on Assumption- If the cost of the benefit assumption adopted should be disclosed with varying results indicated. For example, a

change in actuarial assumption regarding future inflation may be required to fully capture the appropriate cost impact of a change in a COLA formula. And, sensitivity analysis or stochastic modeling showing the impact of various levels of future inflation may be necessary to fully disclose the potential impact of a COLA change on the level and volatility of future employer contributions.

2. Consideration: Gainsharing and other Obligations Difficult to Measure~~-~~using Deterministic Procedures and Assumptions. – The cost of certain benefit improvements based on future plan experience, for example cost-of-living increases (so-called gainsharing) tied to "excess investment return" or floor-offset provisions which provide minimum defined benefits based on a participant's account balance, should be explicitly recognized if they are significant, based on the actuary's professional judgement. There are two different situations when these benefits, if significant, should be priced and disclosed: first, when the benefit structure is adopted or amended; and second, when a contingent event occurs, causing the provisions of the benefit structure to generate an increase in plan benefits.

Suggested Approach: At the adoption or Amendment of a Benefit Structure Contingent on Future Plan Experience
The actuary may use stochastic modeling to recognize the decrease in gross investment return for contingent improvements based on excess investment return, This net investment return would then be used to develop the present value of benefits, incorporating the gainsharing contingency. Alternatively the actuary maydevelop a probability that these benefit increase will occur and incorporate this probability explicitly in the development of the present value of benefits.

Suggested Approach: When a Benefit Improvement Occurs due to a Contingent Event
When a contingent event which causes a benefit improvement occurs, based on a benefit structure already in place, a description of this event and benefit improvement should be disclosed, along with the effect on the Actuarial Accrued Liability (AAL).

3. Consideration: Changes in Actuarial Assumptions or Funding Policies Coinciding with Benefit Changes

As discussed above, there are times when changes in benefit levels or eligibility require the adoption of revised assumptions to appropriately reflect the expected cost of these changes. However, if a number of unrelated changes are made concurrently, it is possible for the transparency of the financial impact of benefit changes alone to be compromised.

Suggested Approach
Other than assumptions as discussed above, other changes in assumptions, funding methods, asset smoothing, amortization periods or other policies should not be tied directly to the benefit changes. The change in AAL, change in normal cost, amortization of change in AAL and change in contributions should be calculated and disclosed separately from other changes that do not directly relate to the benefit change.

Suggested Approach

If ad hoc COLA or other benefit improvements are funded from non-valuation assets, the cost of these benefit increases, such as the increase in UAAL and the resulting amortization (ignoring the non-valuation assets), should be disclosed,

4. Consideration: Funding Periods for Retroactive (Past Service) Benefit Increases

Even though GASB rules previously allowed increases in UAAL to be amortized over as long as 30 years, that period will generally be longer than the average working career of the members receiving the past service benefit increase. This means that some of the cost of the benefit increase will be borne by taxpayers who did not receive any services from the affected members. Requiring shorter amortization periods for retroactive benefit increases means that the short term costs will be higher but ~~that there will be little likelihood~~ the period of ~~an~~ intergenerational cost shifting will also be shorter. Please refer to the "Model Actuarial Funding Policies and Practices" document for more discussion and detail on acceptable amortization periods.

Suggested Approach

The total cost (increase in accrued liability) of retroactive benefit increases should be amortized over a period consistent with the "Model Actuarial Funding Policies and Practices", namely based on the demographic period (generally the average future working lifetime for active member benefit changes and the average future lifetime for retiree benefit changes) up to 15 years. Other acceptable time periods for amortization are outlined in that document.

5. Consideration: Prospective or Retroactive Benefit Reductions

While benefit reductions for current active members have been unusual for California public pension benefits, they have occurred for OPEB benefits. Generally, if prospective benefit reductions occur which are tied to future benefit accruals, such as a reduction in benefit percentage for pensions, the cost of the benefit changes would be reflected in the future normal cost, with no adjustment to the AAL. However, if a change, such as delayed eligibility for benefits, reduces the value of retroactive and prospective benefits, the effect would be reflected in both the Normal Cost and the AAL.

Suggested Approach

If a retroactive benefit decrease is adopted, care should be taken in selecting an amortization period for the negative change in UAAL so that the annual cost of the remaining benefits are not artificially depressed. Generally, using an amortization period tied to the future working lifetime of active members (or future lifetime if the benefit change primarily affects retired members) would be appropriate. Also, it would increase transparency to disclose the timing and amount of increase in annual cost, once the amortization of the negative UAAL base has been completed.

6. Consideration: New Benefit Tier for Future Hires

If a new tier is implemented for active employees hired after a specific date, and that benefit does not affect active members hired prior to that date, the Normal Cost and AAL for the non-affected active members would not change due to the implementation of the new benefit tier.

The development of normal cost for plans with multiple tiers is discussed further in the "Model of Actuarial Funding Policies and Practices".

Suggested Approach
When asked to compute the commulative savings due to implementation of a new benefit tier, the actuary should provide the total and the discounted present value of such savings, possibly with different assumptions related to future salary increases and hiring patterns.

REQUIRED FINANCIAL IMPACT DISCLOSURES PRIOR TO ADOPTION

Currently there is no standard format, content, or process for determining and presenting the cost of a pension benefit improvement. CalPERS has a report format that it uses for agencies requesting a benefit improvement cost study. Similarly, most independent retirement systems will have an actuarial study done at the request of an employer or bargaining parties. However, there is no statewide standard for content, level of detail, disclaimers, or risk analysis. In addition, an actuarial study may be provided to the bargaining parties, but those parties are then free to negotiate benefits with or without direct advice from the actuary. The level of financial detail required and the extent to which it is made available to the public also varies considerably.

As discussed, there are many components to funding benefit improvements, whether retroactive and/or prospective, including:

- Normal cost change and change in UAAL amortization
- Change in member contributions and employer contributions
- Use of surplus
- ~~gain-sharing~~ Benefit obligations tied to future plan experience that may be difficult to value deterministically, such as gain-sharing or floor-offset arrangements

Suggested Approach
Any benefits change proposals should be accompanied by a detailed cost analysis, which may include the following: ~~.~~ It may be sufficient to refer to other reports, such as the annual actuarial valuation report or periodic experience study, to define the benefits, actuarial assumptions and methods, ~~.~~ and other components used for the pricing analysis.

1. The change in the present value of future benefits.
2. The change in normal cost
3. The change in actuarial accrued liability (AAL)
4. The amortization period for any change in UAAL
5. The change in normal cost plus amortization of the change in AAL, regardless of the funded status of the plan and separate from any assumption or method changes not directly required by the change in benefits.
6. The projection of required contributions, funded status or other financial calculations that may not be captured sufficiently by ~~in~~ a single-date pricing ,as appropriate.
7. The source(s) of funding for any change in normal cost (as determined by the employer and/or employees)

8. The source(s) of funding for any change in AAL (as determined by the employer and/or employees)
9. The net change in employer cost and the expected duration of such increase, including the short-, intermediate- and long-term impact, if different
10. The net change in employee contributions and the expected duration of such change
11. The impact on surplus, if any.
    The use of nonvaluation assets, if any.
12.
    ~~11.~~13. Enhanced risk disclosures such as sensitivity analysis, deterministic stress test or stochastic analysis where a single deterministic pricing is not sufficient to document with transparency the financial impact of the change. (See CAAP's Model Disclosure Elements for Actuarial Valuation Reports for more detail.)
    ~~12.~~14. The expected volatility of contribution levels before and after the plan change
    ~~13.~~15. If applicable, the change in assumptions due to the benefit change and the need for further study, once experience develops
    ~~14.~~16. If applicable, the impact of the benefit change on walk-away provisions
    ~~15.~~17. If routinely disclosed or if otherwise under discussion, the impact of the benefit change on hypothetical plan termination liabilities or other plan calculations.
    ~~16.~~18. Other financial implications of the benefit change, including the impact on accounting disclosures.

Such disclosure should be noticed well in advance of any final contract settlement and made available to all interested parties.

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